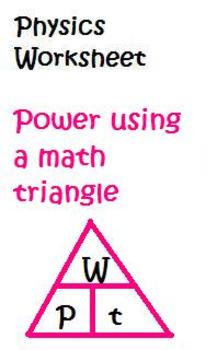
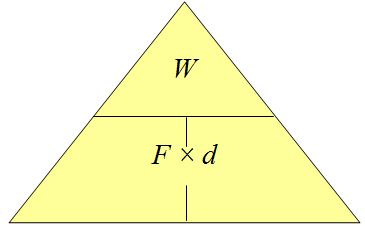
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Work and Power Worksheet

Answer each question by calculating for the missing variable. Be sure to

SHOW ALL calculation work in the space provided. Show formula with

no numbers. Then show numbers you put into formula with units.

Please circle your final answer and be sure it has the proper units!

Remember: 2 main formulas **W = F d** and **P = W / t**

(F = W/d ; d = W/F); (P = F d / t ; Work or Energy🡪 W = P t ; t = W/P

1. You must exert a force of 4.5 N on a book to slide it across a table. If you do 2.7 J

of work in the process, how far have you moved the book?

2. A child pulls a sled up a snow-covered hill. The child does 405 J of work on the

sled. If the child walks 15 m up the hill, how large of a force must the child exert?

3. How much work is done on a small car if a 3150 N force is exerted to move it

75.5 m to the side of the road?

4. A crate is being lifted into a truck. If it is moved with a 2470 N force and 3650 J

of work is done, then how far is the crate being lifted?

5. If 16,700 J of work is done to shoot the human cannonball down a 3.05 m barrel,

then how much force is applied to the person to fire them out the cannon?

6. An elephant pushes with 2000 N on a load of trees. It then pushes these trees for

150 m. How much work did the elephant do?

7. An 190,000 W engine can accelerate from rest to a top speed in 9 s. How much

work did the engine do?

8. Another engine reaches its top speed from rest in 7.5 s. It is able to perform

250,000 J of wok in that time. How much power does this engine have in that

time?

9. If a runner exerts 350 J of work to make 125 W of power, then how long did it

take the runner to do the work?